

AD _____

Award Number: DAMD17-96-1-6009

TITLE: Enhancing Well-Being During Breast Cancer Recurrence

PRINCIPAL INVESTIGATOR: Charles A. Coltman, Jr., M.D.

CONTRACTING ORGANIZATION: CTRC Research Foundation
San Antonio, Texas 78229-3264

REPORT DATE: June 2002

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

20021104 019

REPORT DOCUMENTATION PAGE

*Form Approved
OMB No. 074-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
	June 2002	Annual (1 Jun 01 - 31 May 02)	
4. TITLE AND SUBTITLE		5. FUNDING NUMBERS	
Enhancing Well-Being During Breast Cancer Recurrence		DAMD17-96-1-6009	
6. AUTHOR(S) Charles A. Coltman, Jr., M.D.			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) CTRC Research Foundation San Antonio, Texas 78229-3264 E-Mail: ccoltman@swog.org		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012		10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution Unlimited.			12b. DISTRIBUTION CODE
13. ABSTRACT (<i>Maximum 200 Words</i>) <p>Significant numbers of breast cancer patients will experience a recurrence of their disease. Breast cancer recurrence is a time of enormous crisis, with significant distress, depression, and symptomatology, and few effective coping strategies. Targeted support services are currently unavailable.</p> <p>This study tests the hypothesis that patients experience greater well-being by participating in an intervention designed for breast cancer patients experiencing a first recurrence. Following pilot study phase, 300 breast cancer patients will be enrolled within 6 weeks post-recurrence. All participants are Southwest Oncology Group (SWOG) institutions. The women will be randomly assigned to a control group or an intervention to be carried out by Y-Me, a national breast cancer support and advocacy organization. The intervention consists of 4 to 8 structured sessions providing information and peer support delivered by breast cancer survivors via telephone over a 4 week period. Endpoints are assessed at baseline and 3 and 6 months later through validated quality of life and depression questionnaires.</p> <p>This study provides information about improving well-being during a little studied portion of the breast cancer trajectory. The intervention is delivered by individuals who are well-qualified to provide support: women who themselves have experienced breast cancer recurrence. The project utilizes a cost-effective approach with the potential for widespread dissemination.</p>			
14. SUBJECT TERMS Breast Cancer			15. NUMBER OF PAGES 12
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unlimited

Enhancing Well-Being During Breast Cancer Recurrence

ANNUAL REPORT TABLE OF CONTENTS

	<u>Page</u>
Front Cover	1
Standard Form (SF) 298	2
Table of Contents	3
Introduction	4
Body	6
Key Research Accomplishments	9
Reportable Outcomes	9
Conclusions	10
References	10

**Southwest Oncology Group
DAMD17-96-1-6009 ANNUAL REPORT**

Enhancing Well-Being During Breast Cancer Recurrence

INTRODUCTION

A. Subject and Purpose of the Research

This project uses a two-phase implementation process to determine whether patients will experience greater levels of well-being as a function of participating in an intervention designed for breast cancer patients experiencing a first recurrence.

A Pilot Study was conducted in selected Southwest Oncology Group institutions to accomplish the following: refine intervention protocol materials; develop operating procedures to ensure coordination and communication between the Principal Investigator, the Southwest Oncology Group Operations Office, the Study Coordinator, the Southwest Oncology Group Statistical Center, Y-ME, and the institutions accruing patients; develop a training program for the breast cancer survivors who provide the intervention; finalize assessment questionnaires and examine length and ease of administration by telephone, especially with respect to burden for institution staff; and examine participation and attrition.

The Main Study is currently open to all Southwest Oncology Group institutions. A randomized, two group design is used to evaluate the impact of a telephone intervention delivered by breast cancer survivors on well-being in patients experiencing a first recurrence of breast cancer versus written information. The primary objective of the main study is: to assess the effectiveness of a telephone intervention delivered by breast cancer survivors on well-being in patients experiencing a first recurrence of breast cancer versus written information delivered by mail.

The secondary research objectives of the full trial are: to examine the impact of sociodemographic, clinical, and psychosocial predictors of well-being in patients experiencing a first recurrence of breast cancer; and to examine changes in well-being over time since recurrence.

B. Background of Previous Work

The Psychosocial Impact of Breast Cancer Recurrence

Despite significant increases in five-year breast cancer survival rates, mortality curves for these patients have remained largely unchanged for many years. While many breast cancer patients, especially women diagnosed with Stage I disease, can realistically expect to be cured of their disease, significant numbers of patients will experience a recurrence of their breast cancer at some point following diagnosis, treatment, or a disease-free period. Although this statistic is not generally emphasized, when all stages of breast cancer are considered, as many as 50% of patients will experience recurrence.

Recurrence marks a significant change in the breast cancer care continuum, as it brings home the limits of current knowledge in oncology. The cancer care team must acknowledge that the treatment did not work - that all of the optimism, faith in medicine, and careful compliance with treatment were not enough to forestall disease progression. The patient and family may question whether all of the suffering that they have gone through was really worth it, and they may have a sense of failure: not only about treatment, but about themselves. They must deal with a new reality: that the patient is experiencing pain and other symptoms of her recurrence, that chances for cure have been reduced, and that once again, treatment decisions need to be made.

What is a woman's experience when the worst happens -- that is, when breast cancer returns? Surprisingly, very little attention has been given to this issue in the literature: only nine studies have been reported about recurrence of any cancer during the past 15 years (1). We do know that the patients identify the threat of recurrence as one of the most feared possible outcomes of cancer. The fear of recurrence repeatedly emerges as an important psychosocial theme in breast cancer patients who are newly-diagnosed (2, 3), attending follow-up visits (4), and among long-term survivors (5).

The largest study based on data from patients actually experiencing a recurrence is Worden's cross-sectional study of 102 individuals with recurrences of various cancers (6, 7). Worden found that distress levels of the patients with recurrence were high and equivalent to levels in newly-diagnosed patients. Compared to newly-diagnosed patients, the individuals in this study were less willing to participate in interventions focused solely on psychosocial counseling and more concerned about their medical problems and existential concerns. Among the factors that predicted higher distress were more symptoms, lack of social support, less hope, and being younger. Cella, Mahon, and colleagues (8, 9) also assessed adjustment in 40 patients within one month of recurrence; the patients represented a variety of cancer sites, and 27 were experiencing a first recurrence. Patients in this study experienced high levels of distress: they "almost universally agree that recurrence is more upsetting than initial diagnosis" (8, p. 20). There was a suggestion that having anticipated the possibility of recurrence aided adjustment: patients who reported that they were "completely surprised" by the recurrence fared the worst.

Several studies have focused on breast cancer recurrence. Silberfarb et al. (10) compared psychosocial status in groups of breast cancer patients during initial diagnosis (N=50), first recurrence (N=52), and metastatic disease (N=44). The findings indicated that the stage of first recurrence clearly was the most emotionally stressful time in their samples (10, p. 454). Significantly, only one woman out of the 52 could identify a single coping strategy she had found helpful, in marked contrast to the other two groups. In addition, the findings of this study illustrate how recurrence is often marked by physical impairment as well: 81% of the women in the recurrence group reported pain, the highest percentage of any group. Jenkins et al. (11) evaluated 22 women with newly-diagnosed breast cancer recurrence, and found that 45% experienced depression and anxiety at the level of psychiatric diagnosis; previous psychiatric illness was a significant predictor of recurrence distress. A recent study by Lewis and Deal (1) further described problems in 15 married couples in which the wife was diagnosed with a recurrence of breast cancer. A number of problems in marital adjustment were reported, as well as depression experienced by 40% of the women; the recurrence had been diagnosed a median of 10 months previously, indicating the long-lasting psychosocial impact of breast cancer recurrence and the potential that intervention could provide a real benefit for these patients.

Interventions to Reduce Psychosocial Distress

No intervention directed at the needs of patients experiencing a recurrence of breast cancer (or any other cancer) has been reported. However, several reviews (12-14), including a recent meta-analysis (15), have concluded that psychosocial interventions have a positive impact on the well-being of patients across the spectrum of disease stages and sites. To date, research has not established whether one kind of intervention is more effective than another, or more appropriate for certain patients. A variety of intervention types (e.g., informational, psychological, behavioral, social support) and formats (e.g., group, individual, telephone) have demonstrated beneficial effects. Effects have been demonstrated for quality of life, symptom management, and psychological functioning. The optimal point to evaluate the impact of psychosocial interventions has not been firmly established; most studies assess outcomes at one or more intervals during the first year post-intervention (12-14), although impacts may be long-lasting, even extending to ultimate survival (e.g., 16).

This study draws on an approach that has been found to be effective by a number of investigators: a brief, time-limited intervention combining information and support delivered by telephone. The telephone is frequently used in providing information regarding cancer treatment and counseling (17-22). In particular, the telephone may make services available to individuals for whom traveling would pose difficulties because of geography, health, or access to transportation. The telephone-directed intervention approach is especially well-suited to the Southwest Oncology Group setting, given the potential of providing standardized assessment across participating institutions at a relatively low cost. Other cooperative groups, including the Eastern Cooperative Oncology Group and the Cancer and Leukemia Group B, are currently conducting research protocols utilizing telephone-delivered interventions, although no other group has focused on patients with recurrence. In fact, patients with recurrence appear to have recourse to few specialized resources; although resource and support programs frequently offer assistance to newly diagnosed patients, hospice patients, and (increasingly) to survivors, patients going through a recurrence seem to "fall between the cracks."

The Use of Lay Organizations to Provide Support to Breast Cancer Patients

The intervention will be provided by women who are particularly well-qualified to provide support and information: breast cancer survivors who have themselves experienced recurrence. A distinctive feature of this study is its delivery of the intervention through an established national breast cancer advocacy and support organization, Y-ME. Although Y-ME has provided telephone hotline services (using a toll-free 800 number) since 1987, the impact of the service has not been systematically assessed. This is also true for other lay programs for breast cancer patients, such as the American Cancer Society's Reach-to-Recovery program (23). This study will utilize breast cancer survivors within the context of a structured protocol, as well as standardized and validated outcome measures. If the program proves effective, it can become part of Y-ME's program and be delivered on a standard basis. The use of a voluntary organization staffed with non-health professionals represents a cost-effective approach to providing support. Y-ME has participated in a Southwest Oncology Group Lay Advisors/Advocates Steering Committee for the past two years. The lay advisors (who include representatives of national organizations and volunteers selected through a nationwide search) are special members of the Group, serve as members of Disease and other Committees (including the Committee on Women and Special Populations and the Breast Cancer Committee), and attend semi-annual Group meetings. The lay advisors contributed to the development and design of this protocol.

This study will provide information about how to improve well-being during a portion of the breast cancer trajectory where little attention has been focused. The project utilizes a cost-effective approach to intervention with demonstrated usefulness in cancer patients. The intervention will be delivered by individuals who are especially well-qualified to provide support: women who themselves have experienced breast cancer recurrence. This project represents one of the first formal research collaborations between a clinical cooperative research group and a lay breast cancer organization. The project reflects the overriding motivation of both groups: to provide the best possible care and support to cancer patients.

Body

A. Experimental Methods

Overview

The Pilot Study involved 30 women meeting the eligibility criteria who all participated in the intervention and completed the outcome assessment questionnaires. The Main Study utilizes a two arm randomized design with repeated measures at three time points. Three hundred breast cancer patients commence participation following a first recurrence of breast cancer. At that time, the participants complete a battery of instruments, including baseline measures of well-being.

Participants are stratified by age (< 50 years vs. > 50 years), time since diagnosis (< 2 years vs. > 2 years), and recurrence site (soft tissue/bone vs. visceral) and randomly assigned to intervention group (intervention vs. control). Participants in the intervention group complete an intervention completed within a four-week period; the intervention will cover four discrete content areas and will be carried out in four to eight telephone calls. Assessments of well-being are collected at approximately three months post-baseline, and again 6 months post-baseline. The primary outcome is well-being, including quality of life (as measured by the Cancer Rehabilitation Evaluation System-Short Form (CARES-SF) [24-30]) and depression (as measured by the Center for Epidemiologic Studies-Depression scale (CES-D) [31-32]).

Eligibility Criteria

Eligibility criteria include: having received definitive surgical treatment for Stage I, II, or IIIa breast cancer and being diagnosed with a first recurrence of breast cancer in the past 42 days (pilot study) or 56 days (main study); being female; no current psychiatric diagnosis affecting ability to participate in the intervention; ability to read and understand English. In the first eight months the pilot study was open, patients must have had no previous enrollment or plans to enroll on a Southwest Oncology Group treatment protocol; this restriction was eliminated for the last portion of the pilot study and for the main study. All patients must complete baseline questionnaires to participate. Institutional Review Board approval must have been received prior to patient registration.

Procedures

Pilot Study: All women completed baseline questionnaires and received a questionnaire packet to complete and return by mail in six weeks. All women were provided with a basic information packet including a copy of the Y-ME booklet "I Still Buy Green Bananas" and a list of agencies which provide cancer-related information. All participating institutions compiled materials about resources available in their catchment area. Project staff compiled information on national organizations such as Y-ME, the Cancer Information Service (1-800-4-CANCER), and the American Cancer Society as part of the information packet. All women in the pilot study received the four session telephone intervention from Y-ME peer counselors.

Main Study: All women complete the baseline questionnaires and are provided with basic information (as above). Women in the control group receive no additional intervention. They are mailed self-administered assessment questionnaires to complete 3 months and 6 months later. After completing the final assessment, they are given the same packet of materials provided earlier to the women in the intervention group. Patients in the intervention group are provided with an intervention consisting of four to eight counseling/information sessions delivered by Y-ME counselors by telephone over a one-month period.

A standardized intervention protocol is used, and calls should require no longer than 45 minutes to complete. Each call focuses on different problem areas from the group below. The modules reflect psychosocial, physical, and existential concerns. Each woman is given a choice about the order in which the sessions are presented. Each call provides basic information and the opportunity for the patients to discuss individual concerns. The general format is to provide information in specified areas, active listening when the women discuss their concerns, assistance in problem-solving, and information about resources that may be helpful.

The intervention is not designed to provide psychotherapy. Instead, the Y-ME peer counselors provide information, peer support, and referrals to community organizations. Procedures currently in place at Y-ME are used if serious psychological disturbance is detected during a telephone session. In such cases, patients are asked if the Y-ME peer counselor can contact the Southwest Oncology Group physician who enrolled her on the study. Following the first session, the patients are sent a packet of written materials.

Study Endpoints

The primary endpoint in this study is well-being (CARES-SF psychosocial functioning and depression) three months post-enrollment in the study. A CARES-SF Psychosocial score of .615 or greater will designate impaired psychosocial functioning. This cut-off has been found to correctly classify breast cancer patients "at risk" for psychosocial distress, as identified in a comprehensive clinical interview by a social worker; the estimated probability of classifying women in the high risk group was .81 in a recursive partitioning model (30). Depression will be indicated by a score of 16 or above on the Center for Epidemiological Studies @ Depression (CES-D) scale (31-32).

Longer-term well-being will also be examined at 6 months post-study entry. The intervention will also be evaluated through a standardized "Telephone Counseling Evaluation Form." A "Psychosocial Predictors Form" will be used to examine possible predictors of well-being. These include: social support (measured by Reynolds et al.'s four-item scale [33]); optimism-pessimism (measured using the total score on the Life Orientation Test (LOT) [34-35]); surprisingness of the recurrence (8); and, Sense of Coherence Scale (SOC) (36-38). A "Current Cancer Treatment" form will ascertain treatments being received at baseline, 3 and 6 months.

Analysis

Anticipated total accrual for the Pilot Study was 30 patients. Sample size for the Main Study is 300 patients, with 255 patients expected to be available at the three-month assessment point. Power calculations indicate that a sample size of 255 is sufficient to test intervention vs. control group differences for the two primary endpoints (CARES-SF Psychosocial cutoff score and CES-D cut-off score); with a power of .90 and a one-tailed alpha-level of .025, the study will be able to detect differences in proportions of women who score "at risk" of 20% between the intervention and control groups. Secondary analyses will utilize logistic and least squares regression analyses.

B. Results/Progress to Date

Current Status

The protocol for the pilot study was activated by the Southwest Oncology Group on June 1, 1997. The target sample size of 30 patients was reached in July 1998. The Main Study opened Group-wide on July 15, 1998 for activation by all Southwest Oncology Group institutions. The first patient was accrued to the protocol in September 1998. As of June 1, 2001, 294 patients had been entered on the study. Accrual has been steady over the 2002 calendar year. The accrual has been stable at approximately 5-10 registrations per month for the past year.

During the past year, the following activities have been completed:

1. Recruitment and training of additional peer counselors (Y-ME) (due to disease progression in one of the original counselors).
2. Continuation of continuing education and provision of feedback and reinforcement for Y-ME peer counselors by Dr. Taylor and Ms. Perotti.
3. Periodic communications from Dr. Gotay to the Project Team, Principal Investigators and Data Managers at participating institutions to encourage their participation, and communicate new information. The Southwest Oncology Group Operations Office has set up a listserve to enable communication with all institutions that have activated the study to facilitate regular e-mail messages. Recently (5-02), Dr. Gotay sent an e-mail to the top accruing institutions to thank them for their support and enlist their help in accruing a few more patients to complete the study.

4. As Study Coordinator, Dr. Gotay continues to respond to numerous telephone calls and e-mails regarding eligibility and other aspects of the protocol. These calls have come primarily from individuals at Southwest Oncology Group institutions and women across the country who learn about the study from the Y-ME newsletter or internet home page, where the study is listed.
5. Regular communications were maintained between Dr. Gotay and the Project Team (including the Southwest Oncology Group Statistical Center, Southwest Oncology Group Operations Office, Y-ME, and the consultants). Monthly telephone conferences are scheduled between Dr. Taylor at Y-ME, and weekly or more frequent e-mail or telephone communication with the Southwest Oncology Group Statistical Center (Drs. Green and Moinpour).
6. Two project group meetings were held in conjunction with Southwest Oncology Group meetings in Chicago, IL (October 2001) and Dallas, TX (April 2002).
7. Presentations about the study were made at the October 2001 and April 2002 Breast Cancer Committee and Cancer Control Research Committee Meetings (C. Gotay).
8. The Southwest Oncology Group Statistical Center has continued to send reminders to let institutional personnel know about upcoming questionnaire completion dates for women registered at their institutions. This information is computer-generated and is transmitted to each institution on a monthly basis in the same way as is done for treatment studies.
9. The Southwest Oncology Group Statistical Center continues to analyze numbers of cases of missing questionnaires (either baseline, 3 month, or 6 months) by institution. There are few missing questionnaires overall.
10. Dr. Gotay and her staff continue to send mailed materials to institutions who have women who are in the control condition. The institutions distribute these materials to the women after they complete their final questionnaires. They also send materials to women who inquire about the study but do not meet eligibility criteria. These breast cancer survivors seem to appreciate receiving the materials a great deal.
12. Drs. Gotay and Moinpour developed a form to abstract data from the counselor's notes to provide an indication of "intensity of the intervention." This form tracks the number of calls, number of minutes, and module areas covered during the counselor telephone calls. During the 2001-2 year, Dr. Gotay abstracted data from the counselor logs and submitted this information to the Statistical Center where it will be added to the database.
13. Dr. Gotay and the research team are preparing a manuscript based on the perceptions of the peer counselors. Since accrual is nearly complete, the counselors will be ceasing participation in the protocol. Their perceptions of how well the intervention worked and the effects of participating in a research protocol on the lay care providers like this one will be important information for future such efforts.

KEY RESEARCH ACCOMPLISHMENTS

None, the project is not completed.

REPORTABLE OUTCOMES

None, the project is not completed.

CONCLUSIONS

After a slower-than-expected start, the protocol continues to accrue at a steady rate. There is considerable enthusiasm for the research in the Group among behavioral scientists and clinicians alike, and women participating in the protocol have been highly supportive. Continued vigilance is needed to keep the protocol salient in the minds of physicians, nurses, and data managers so that referrals will be maintained until study completion. Dr. Gotay and the project team will maintain efforts at publicizing the study, providing communications with Southwest Oncology Group institutions, and making presentations at the Group meetings to ensure that the study continues to have a high profile within the Group. We recognize that sustained effort is needed to make certain that this study meets its accrual goals. Since there are still no studies elsewhere in the country that we are aware of addressing the needs of this population of breast cancer patients, we remain convinced that our project will make a significant contribution when it is completed.

REFERENCES

1. Lewis FM, Deal LWE. Balancing our lives: A study of the married couple's experience with breast cancer recurrence. *Oncology Nursing Forum* 22:943-953, 1995.
2. Lasry J-C, Margolese RG. Fear of recurrence, breast-conserving surgery, and the trade-off hypothesis. *Cancer* 69:2111-2115, 1992.
3. Noguchi M, Saito Y, Nishijima H, et al. The psychological and cosmetic aspects of breast conserving therapy compared with radical mastectomy. *Surgery Today* 23: 598-602, 1993.
4. Lampic C, Wennberg A, Schill JE, et al. Anxiety and cancer-related worry of cancer patients at routine follow-up visits. *Acta Oncologica* 33:119-125, 1994.
5. Halttunen A, Hietanen P, Jallinoja P, et al. Getting free of breast cancer: An eight-year perspective of the relapse-free patients. *Acta Oncologica* 31:307-310, 1992.
6. Worden JW. The experience of recurrent cancer. *Journal of Psychosocial Oncology* 3:5-16, 1986.
7. Worden JW. The experience of recurrent cancer. *CA-A Cancer Journal for Clinicians* 39:305-310, 1989.
8. Cell DF, Mahon SM, Donovan MI. Cancer recurrence as a traumatic event. *Behavioral Medicine* 16:15-22, 1990.
9. Mahon SM, Cell DF, Donovan MI. Psychosocial adjustment to recurrent cancer. *Oncology Nursing Forum* 17:47-52, 1990.
10. Silberfarb PM, Maurer H, Crouthamel CS. Psychosocial aspects of neoplastic disease: I. Functional status of breast cancer patients during different treatment regimens. *American Journal of Psychiatry* 137:450-455, 1980.
11. Jenkins PL, May VE, Hughes LE. Psychological morbidity associated with local recurrence of breast cancer. *International Journal of Psychiatry in Medicine* 21:149-155, 1991.

12. Andersen BL. Psychological interventions for cancer patients to enhance quality of life. *Journal of Consulting and Clinical Psychology* 60:552-568, 1992.
13. Trijsburg RW, van Knippenberg FCE, Rijpma SE. Effects of psychological treatment on cancer patients: A critical review. *Psychosomatic Medicine* 54:489-517, 1992.
14. Fawzy FI, Fawzy NW, Arndt LA, Pasnau RO. Critical review of psychosocial interventions in cancer care. *Archives of General Psychiatry* 52:100-113, 1995.
15. Meyer TJ, Mark MM. Effects of psychosocial interventions with adult cancer patients: A meta-analysis of randomized experiments. *Health Psychology* 14:101-108, 1995.
16. Spiegel D, Kraemer HC, Bloom JR, et al. Effects of psychosocial treatment on survival of patients with metastatic breast cancer. *Lancet* 2:888-891, 1989.
17. Alter CL, Fleishman SB, Kornblith AB, et al. Supportive telephone intervention for patients receiving chemotherapy: A pilot study. *Psychosomatics*, in press.
18. Anderson DM, Duffy K, Hallett CD, Marcus AC. Cancer prevention counseling on telephone hotlines. *Public Health Reports* 107:278-283, 1992.
19. Hagopian GA, Rubenstein JH. Effects of telephone call interventions on patients' well-being in a radiation therapy department. *Cancer Nursing* 13:339-344, 1990.
20. Mermelstein HT, Holland JC. Psychotherapy by telephone: A therapeutic tool for cancer patients. *Psychosomatics* 32:407-412, 1991.
21. Nail LM, Greene D, Jones LS, Flannery M. Nursing care by telephone: Describing practice in an ambulatory oncology center. *Oncology Nursing Forum* 16:387-395, 1989.
22. Rainey LC. Cancer counseling by telephone help-line: the UCLA psychosocial cancer counseling line. *Public Health Reports* 100:308-315, 1985.
23. Willits M-J. Role of "Reach to Recovery" in breast cancer. *Cancer* 74:2172-2173, 1994.
24. Ganz PA, Hirji K, Sim M-S, et al. Predicting psychosocial risk in patients with breast cancer. *Medical Care* 31:419-431, 1993.
25. Schag CAC, Ganz PA, Polinsky ML, et al. Characteristics of women at risk for psychosocial distress in the year after breast cancer. *Journal of Clinical Oncology* 11:783-793, 1993.
26. Ganz PA, Coscarelli A, Fred C, et al. Breast cancer survivors: Psychosocial concerns and quality of life. *Breast Cancer Research & Treatment*, in press.
27. Ganz PA, Schag CA, Lee JJ, Sim MS. The CARES: A generic measure of health-related quality of life for patients with cancer. *Quality of Life Research* 1:19-29, 1992.
28. Schag CAC, Heinrich RL, Aadland RL, Ganz PA. Assessing problems of cancer patients: Psychometric properties of the Cancer Inventory of Problem Situations. *Health Psychology* 9:83-102, 1990.
29. Schag CC, Heinrich RL, Ganz PA. The Cancer Inventory of Problem Situations: An instrument for assessing cancer patients' rehabilitation needs. *Journal of Psychosocial Oncology* 1:11-24, 1983.

30. Ganz PA, Schag CC, Cheng H. Assessing the quality of life: A study in newly diagnosed breast cancer patients. *Journal of Clinical Epidemiology* 43:75-86, 1990.
31. Comstock CW, Helsing KJ. Symptoms of depression in two communities. *Psychological Medicine* 6:551-563, 1976.
32. Weissman MM, Sholomskas D, Pottenger M, et al. Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology* 106:203-214, 1977.
33. Reynolds P, Boyd PT, Blacklow RS, et al. The relationship between social ties and survival among black and white cancer patients. *Cancer Epidemiology, Biomarkers, and Prevention* 3:253-259, 1994.
34. Scheier MF, Carver CS. Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology* 4:219-247, 1985.
35. Carver CS, Pozo-Kaderman C, Haris SD, et al. Optimism vs. pessimism predicts the quality of women's adjustment to early stage breast cancer. *Cancer* 73:1213-1220, 1994.
36. Antonovsky A. *Health, stress, and coping*. San Francisco: Jossey-Bass, 1979.
37. Antonovsky A. The structure and properties of the Sense of Coherence scale. *Social Science & Medicine* 36:725-733, 1993.
38. Chamberlain K, Petrie K, Azariah R. The role of optimism and sense of coherence in predicting recovery following surgery. *Psychology and Health* 1, 1992.